

## **Response/Arguments**

### **A. Claims in the Case**

Claims 309 and 460-495 are rejected. Claims 486-488 and 495 have been cancelled. Claims 309, 460, 461, 464, 468, 469, 471 and 483-485 are amended. Claims 309, 460-465, 468-481, 483-485, 489-494 and 496 are pending in the case.

### **B. Information Disclosure Statement**

The Information Disclosure Statement file April 23, 2002 was objected to for failing to include copies of non-patent literature listed in the document. Additionally, foreign patent document 439,182 cannot be located.

Applicant is attaching herewith a copy of the return receipt postcard date stamped April 23, 2002 providing confirmation that the Office acknowledged receipt of references D1-D83 listed on accompanying Form PTO-1449.

Applicant respectfully requests confirmation that references D1-D83 filed as part of the Information Disclosure Statement of April 23, 2002 cannot be located. In the case that the references cannot be located, Applicant will provide the Office with replacement copies of the references.

### **C. Oath/Declaration**

The Office Action included a statement that the oath or declaration is defective. A request for a new declaration in compliance with 37 CFR §1.67(a) was solicited.

Applicant has enclosed a new Oath/Declaration.

**D. Claim Objections**

The Office Action included objections to claims 482-485 for reciting the feature “wherein the particle comprises a receptor molecule coupled to a polymeric resin” that was previously recited in the parent claim. Applicant has amended the language of claim 482-485 for clarification.

The Office Action included an objection to the claim 469 for reciting the feature “wherein the cavity is configured to allow fluid to pass through the supporting member during use” that was previously recited in claim 468. Applicant respectfully disagrees with this objection. Claim 469 depends on claim 309. Claim 309 does not recite the feature. Rather, this feature is recited in claim 468. Claim 469 does not depend on claim 468. Claim 469 recites the further feature “and wherein a width of a bottom portion of the cavity is substantially less than a width of a top portion of the cavity, and wherein the width of the bottom portion of the cavity is substantially less than a width of the particle.” Applicant respectfully requests the removal of the objection to claim 469.

The Office Action included objections to claims 487-488 for reciting the feature “a fluid delivery system coupled to the supporting member” that was previously recited in claim 486.

Applicant respectfully disagrees with this objection, however to expedite prosecution claims 487 and 488 have been cancelled.

**C. The Claims Are Definite**

The Office Action included rejections of claims 309 and 460-496 under 35 U.S.C. §112, second paragraph, for allegedly failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

With regard to claim 309, the Office Action states “[t]he phrase ‘configured to’ is vague and indefinite. The specification does not provide a definition on how the particle is configured, and it is not clear how the particle can produce a signal.”

With regard to claims 309, 461 and 468-469, the Office Actions states, “the phrase ‘cavity’ is vague and indefinite.” The Office Action further states, “it is not clear as to how one of ordinary skill in the art at the time of the invention would determine which cavity is referred to with regards to the limitation ‘the particle positioned within the cavity’.”

Applicant has amended claims 309, 461 and 468-469. Amended claim 309 recites a combination of features that include “the particle positioned within a cavity, wherein the particle is adapted to produce a signal when the particle interacts with the analyte in the bodily fluid.” Support for the amendment may be found at least on page 8, lines 9-18, page 32, lines 12-27 and page 34, lines 4-17 of the instant specification. Applicant submits that amended claim 309 is definite pursuant 35 U.S.C. §112, second paragraph.

With regard to claim 309, 467, 468, 469 and 471, the Office Action states, “the phrase ‘during use’ is vague and indefinite’. The specification does not provide a definition for the phrase and it is not clear what type of use the claim is referring to.” Applicant has amended claims 309, 467-469, and 471 for clarification.

With regard to claim 484, the Office Action states, “the phrase ‘causes the first and second indicators to interact’ is vague and indefinite. The specification does not provide a definition on how they interact, and it is not clear whether the indicators interact with each other, interact separately with an analyte, or perform another type of interaction.” Applicant respectfully disagrees with this rejection.

The features “wherein the particle further comprises a first indicator and a second indicator, the first and second indicators being coupled to the receptor, wherein an interaction of the receptor with the analyte causes the first and second indicators to interact such that the signal is produced” are clearly disclosed at least in FIG. 8, FIG. 55B, FIG. 55D, FIG. 55F, FIG. 55I of the instant specification. The figures depict schematically the interaction between a first indicator and a second indicator coupled to a receptor. The instant specification also describes an interaction between a first indicator and a second indicator

The specification recites:

For example, a first fluorescent indicator 320 (e.g., a fluorescein derivative) and a second fluorescent indicator 330 (e.g., a rhodamine derivative) may be attached to a receptor 300, as depicted in FIG. 8. When no analyte is present short wavelength excitation 310 may excite the first fluorescent indicator 320, which fluoresces as indicated by 312. The short wavelength excitation, however, may cause little or no fluorescence of the second fluorescent indicator 330. After binding of analyte 350 to the receptor, a structural change in the receptor molecule may bring the first and second fluorescent indicators closer to each other. This change in intermolecular distance may allow the excited first

indicator 320 to transfer a portion of its fluorescent energy 325 to the second fluorescent indicator 330. This transfer in energy may be measured by either a drop in energy of the fluorescence of the first indicator molecule 320, or the detection of increased fluorescence 314 by the second indicator molecule 330.

Alternatively, the first and second fluorescent indicators may initially be positioned such that short wavelength excitation, may cause fluorescence of both the first and second fluorescent indicators, as described above. After binding of analyte 350 to the receptor, a structural change in the receptor molecule may cause the first and second fluorescent indicators to move further apart. This change in intermolecular distance may inhibit the transfer of fluorescent energy from the first indicator 320 to the second fluorescent indicator 330. This change in the transfer of energy may be measured by either a drop in energy of the fluorescence of the second indicator molecule 330, or the detection of increased fluorescence by the first indicator molecule 320. (Specification, page 36, lines 8-27).

The third optical transduction scheme involves fluorescence energy transfer. In this approach, two fluorescent monomers for signaling may be mixed into a combinatorial split synthesis. Examples of these monomers are depicted in FIG. 14. Compound 470 (a derivative of fluorescein) contains a common colorimetric/fluorescent probe that may be mixed into the oligomers as the reagent that will send out a modulated signal upon analyte binding. The modulation may be due to resonance energy transfer to monomer 475 (a derivative of rhodamine). When an analyte binds to the receptor, structural changes in the receptor will alter the distance between the monomers (schematically depicted in FIG. 8, 320 corresponds to monomer 470 and 330 corresponds to monomer 475). It is well known that excitation of fluorescein may result in emission from rhodamine when these molecules are oriented correctly. The efficiency of resonance energy transfer from fluorescein to rhodamine will depend strongly upon the presence of analyte binding; thus measurement of rhodamine fluorescence intensity (at a substantially longer wavelength than fluorescein fluorescence) will serve as a indicator of analyte binding. To greatly improve the likelihood of a modulatory fluorescein-rhodamine interaction, multiple rhodamine tags can be attached at different sites along a combinatorial chain without substantially increasing background rhodamine fluorescence (only rhodamine very close to fluorescein will yield appreciable signal). In one embodiment, depicted in Figure 8, when no ligand is present, short wavelength excitation light (blue light) excites the fluorophore 320, which fluoresces (green light). After binding of analyte ligand to the receptor, a structural change in the receptor molecule brings fluorophore 320 and fluorophore 330 in proximity, allowing excited-state fluorophore 320 to

transfer its energy to fluorophore 330. This process, fluorescence resonance energy transfer, is extremely sensitive to small changes in the distance between dye molecules (e.g., efficiency  $\sim$  [distance]<sup>-6</sup>). (Specification, page 92, line 29-page 93, line 21).

For at least the reasons cited above, Applicant submits that the feature “wherein an interaction of the receptor with the analyte causes the first and second indicators to interact such that the signal is produced” is definite in the context of 35 U.S.C. §112.

With regard to claim 495, the Office Action states, “[c]laim 495 is drawn to fluid that is ‘blood’, which is an intended use of the parent claim (claim 309). Recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.” Applicant respectfully disagrees with this rejection, however to expedite prosecution Applicant has cancelled claim 495.

With regard to claims 460, 467, and 469, the Office Action states that the term “substantially ... is a relative term which renders the claim indefinite.” Applicant has amended claims 460, 467, and 469 for clarification. Applicant submits that claims 460, 467, and 469 are definite in the context of 35 U.S.C. §112.

With regard to claim 460, the Office Action states, “it is not clear how the term limits the phrase ‘simultaneously detect a plurality of analytes’. Specifically, it is not clear whether simultaneous detection occurs since the instant term renders the phrase indefinite.” Applicant has amended claim 460 for clarification. Amended claim 460 recites a combination of features that include “wherein the system is adapted to detect a plurality of analytes in a bodily fluid,

wherein detecting a plurality of analytes in a bodily fluid comprises positioning a plurality of populations of particles within a plurality of cavities, wherein at least one population of particles is adapted to detect at least one analyte, wherein the analyte that is detected by a population of particles is not detected by a different population of particles.” Applicant submits that amended claim 460 is definite pursuant to 35 U.S.C. §112.

With regard to claim 467, the Office Action states, “it is not clear when an inhibition of ‘dislodgement of a particle’ is obtained.” Applicant submits that is rejection is moot in light of the previous amendment made to claim 467 *supra*.

With regard to claim 469, the Office Action states, “it is not clear when a ‘bottom portion of the cavity’ is obtained since it is not clear how less the width needs to be from the ‘top portion of the cavity’ and ‘width of the particle inhibition of ‘dislodgement of a particle’ is obtained.” Applicant submits that is rejection is moot in light of the previous amendment made to claim 469 *supra*.

Applicant submits that the claims are definite pursuant to 35 U.S.C. §112. Applicant respectfully requests the removal of the rejections on these grounds.

**C. The Claims Are Not Anticipated by Lavigne et al.**

The Office Action included rejections of claims 309, 460, 463-464, 467-469, 472, 474, 477-479, 481-482, 485, 491-493 and 495 under 35 U.S.C. §102(b) for being anticipated by Lavigne et al. (hereinafter “Lavigne”) in light of U.S. Patent No. 5,541,057 granted to Bogart et al (hereinafter “Bogart”). Applicant respectfully disagrees with these rejections.

The standard for "anticipation" is one of fairly strict identity. To anticipate a claim of a patent, a single prior source must contain all the claimed essential elements. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 U.S.P.Q.81, 91 (Fed.Cir. 1986); *In re Donahue*, 766 F.2d 531, 226 U.S.P.Q. 619, 621 (Fed.Cir. 1985).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Applicant wishes to point out that in making the aforementioned rejections, the Office Action appears to have relied on a combination of the Lavigne and Bogart references. Applicant wishes to respectfully remind the Examiner that a 35 U.S.C. 102 rejection based upon a combination of references is improper.

The Office Action asserts that Lavigne anticipates claim 309. Applicant respectfully disagrees with this rejection. However, in order to expedite prosecution of the present application, Applicant has amended the language of claim 309.

Amended claim 309 recites in part:

a sensor array, the sensor array comprising a supporting member comprising at least one cavity formed within the supporting member; a particle, the particle positioned within a cavity, wherein the particle is adapted to produce a signal when the particle interacts with the analyte in the bodily fluid, and wherein the particle comprises a receptor molecule coupled to a polymeric resin; a fluid delivery system, the fluid delivery system being incorporated into the supporting member; and a detector, the detector being configured to detect the signal produced by the interaction of the analyte with the particle; wherein the fluid delivery system is configured to deliver fluid to the particle positioned within the cavity, and wherein the light source and detector are positioned such that light



passes from the light source, to the particle, and onto the detector.

Support for the amendment may be found at least on page 8, lines 8-15 of the instant specification, which recites:

Light originating from the light source may pass through the sensor array and out through the bottom side of the sensor array. Light modulated by the particles may pass through the sensor array and onto the proximally spaced detector. Evaluation of the optical changes may be completed by visual inspection or by use of a CCD detector by itself or in combination with an optical microscope. A microprocessor may be coupled to the CCD detector or the microscope. A fluid delivery system may be coupled to the supporting member of the sensor array. The fluid delivery system, in some embodiments, is configured to introduce samples into and out of the sensor array. (Specification, page 8, lines 8-15).

Further support for the amendment may be found at least on page 25, lines 15-21 of the instant specification, which recites:

The optical detectors may be coupled to a microprocessor to allow evaluation of fluids without the use of separate detecting components. Additionally, the fluid delivery system may also be incorporated into the supporting member. Micro-pumps and micro-valves may also be incorporated into the silicon wafer to aid passage of the fluid through the cavities. Integration of detectors and a fluid delivery system into the supporting member may allow the formation of a compact and portable analyte sensing system. (Specification, page 25, lines 15-21).

Applicant submits that Lavigne does not teach the feature of “a fluid delivery system, the fluid delivery system being incorporated into the supporting member” in combination with the other features of claim 309.

Regarding claims 460 and 474, the Office Action asserts that page 6429, right column, 1<sup>st</sup> paragraph and Figure 1B of Lavigne teaches that the system comprises a plurality of particles

within a plurality of cavities, wherein the system is configured to simultaneously detect a plurality of analytes in a fluid. Applicant respectfully disagrees with these rejections. Applicant asserts that the combination of features found in amended claim 460 and claim 474, in combination with the features of amended claim 309, are neither taught nor suggested by Lavigne.

The Office Action asserts that page 6429, right column, 1<sup>st</sup> paragraph of Lavigne anticipate claims 463-464, and 493. Applicant respectfully disagrees with these rejections. Applicant asserts that the combination of features found in amended claim 463-464, and claim 493, in combination with the features of amended claim 309, are neither taught nor suggested by Lavigne.

The Office Action asserts that Lavigne anticipates claims 467-469. Applicant respectfully disagrees with these rejections. Applicant asserts that the combination of features found in amended claims 467-469, in combination with the features of amended claim 309, are neither taught nor suggested by Lavigne.

Applicant further asserts that the statement made in the Office Action that “Lavigne et al. reference teaches a cover layer positioned at a fixed distance above the supporting member at a height to substantially inhibit dislodgement of a particle in a cavity during use” is erroneous. Applicant asserts that there are no explicit or implicit teachings in Lavigne that specify positioning a cover layer at a fixed height above the supporting member, or that positioning the cover layer at said height would inhibit dislodgment of particles residing in a cavity.

The Office Action further states that Figure 1, and the caption thereof, anticipate claim 472. Claim 472 recites the feature a sensing cavity formed on a bottom surface of the sensor array. Applicant submits that, for at least the reasons cited above, the combination of features

found in claim 472, in combination with the features of amended claim 309, are neither taught nor suggested by Lavigne.

With regard to claim 477, the Office Action states “Lavigne et al teaches that an inner surface of a cavity ... Although Lavigne et al does not explicitly teach that the wells are reflective, silicon wafers are inherently reflective, as taught by Bogart et al. in disclosing that silicon wafer is a polished reflective material.”

Claim 477 recites a combination of features that include “wherein an inner surface of the cavity is coated with a reflective material.” Claim 477 does not include a recitation that the reflective material is a polished silicon wafer. Moreover, the Examiner appears to rely on a combination of references to teach the features of claim 477. Applicant respectfully reminds the Examiner that a 35 U.S.C. 102 rejection based upon a combination of references is improper.

Regarding claims 478-479, the Office Action states “Lavigne teaches that the detector comprises a CCD and comprises a semiconductor based photo-detector. Applicant submits that the combination of features found in claims 478 and 479, in combination with the features of amended claim 309, are neither taught nor suggested by Lavigne.

Regarding claim 481, the Office Action states, “Lavigne teaches that the detector comprises a fluorescence detector and wherein the particle comprises a receptor molecule coupled to a polymeric resin. Applicant submits that the combination of features found in claim 481, in combination with the features of amended claim 309, are neither taught nor suggested by Lavigne.

Regarding claim 485, the Office Action states, “Lavigne teaches that the particle further comprises an indicator ... and upon washing the released tag away from the resin, there is

colorimetric modulation.” Applicant submits that, for at least the reasons cited above, the combination of features found in amended claim 485, in combination with the features of amended claim 309, are neither taught nor suggested by Lavigne.

Regarding claim 491-492, the Office Action states, “Lavigne teaches that the particle ranges from about 0.05 microns to about 500 microns ... wherein swelling volumes of beads with a wet diameter of 250 microns are on the order of 4 times the dry diameter of 210 microns.” Applicant submits that the combination of features found in claims 491 and 492, in combination with the features of amended claim 309, are neither taught nor suggested by Lavigne.

In light of the above, Applicant submits that the claims are not anticipated by Lavigne pursuant to 35 U.S.C. §102(b). Applicant respectfully requests the removal of the rejection of claims 309, 460, 463-464, 467-469, 472, 474, 477-479, 481-482, 485, 491-493 and 495 under 35 U.S.C. §102(b).

**D. The Claims Are Not Obvious Over The Cited Prior Art**

The Office Action included rejections of claims 461, 466, 470-471, 473, 486-487, 490 and 494 under 35 U.S.C. §103(a) as being unpatentable over Lavigne in view of U.S. Patent No. 6,485,690 to Pfof (hereinafter “Pfof”). Applicant respectfully disagrees with these rejections.

For at least the reasons cited above, Applicant asserts that combination Lavigne with Pfof fails to teach or suggest the combination of features found in claims 461, 466, 470-471, 473, 486-487, 490 and 494 in combination with the features of claim 309, including but not limited to at least the features of “a fluid delivery system, the fluid delivery system being incorporated into the supporting member; and a detector, the detector being configured to detect the signal produced by the interaction of the analyte with the particle; wherein the fluid delivery

system is configured to deliver fluid to the particle positioned within the cavity, and wherein the light source and detector are positioned such that light passes from the light source, to the particle, and onto the detector.”

With respect to Pfof, the Examiner states:

Pfof et al. reference teaches that a fluid delivery system is coupled to the supporting member, wherein the fluid delivery system is configured to introduce samples into the sensor array...  
(Office Action, page 14)

With respect to a fluid delivery system, Pfof states:

FIGS. 10-18 schematically illustrate the use of a pressure pumping system (or an alternate vacuum system) for fluid delivery and pressure control through a synthesis process. In these drawings, the microfluidic chip member 10' has a reservoir layer schematically depicted by reference number 12', a middle or distribution layer 14' and a well plate layer 16'. The top layer 12' has a pair of openings 20' which are connected via microchannels to a row or column channel 26' in the middle layer 14'. The channel 26' is in fluid communication with reaction well 30' through channels 28' and 32'. One or more microbeads 31 may be positioned in the reaction well 30' for solid phase chemistry applications. Sealing members, such as O-rings 27 or gasket sheeting are used to seal the interface between the layers 12' and 14'.

Initially, the openings 20' are sealed with sealing members 29. The sealing members have self-sealing openings which allow the entry of probes or pipettes in order to allow materials to be introduced into the chip member 10'. As shown in FIG. 11, a liquid distribution member 33 is positioned on the chip member 10' and probes 35 are used to insert a liquid, such as a reagent, into openings 20'. Then, by capillary forces or low pressure pumping, the reagent fills the row or column channel 26', as shown in FIG. 12. If the fluid levels in the two reservoirs do not equalize, then differential pressures may be applied to equalize fluid deliveries. A capillary forming structure (also called a microvalve) 37 is fabricated in channel 32' at the entrance to the reaction well 30'. As stated above, the reservoir and distribution layers can be formed from two or more separate plate members with

the micro-sized channels, reservoirs, and the like formed on the mating surfaces.

(Pfof, col. 7, line 46 - col. 8, line 10)

Applicant submits that Pfof does not teach a fluid delivery system, the fluid delivery system being incorporated into the supporting member. Applicant submits that Pfof, instead, appears to teach a fluid delivery system that is external to the supporting member. The fluid delivery system of Pfof appears to teach the use of “probes or pipettes” to insert a sample into the sensor array. As such, Applicant submits that the combination of Lavigne and Pfof does not appear to teach or suggest all of Applicant’s claimed features.

The Office Action included rejections of claim 462 under 35 U.S.C. §103(a) as being unpatentable over Lavigne in view of U.S. Patent No. 5,854,684 to Stabile (hereinafter “Stabile”). Applicant respectfully disagrees with these rejections.

For at least the reasons set forth with respect to the combination of Lavigne with Pfof and incorporated herein by reference, Applicant asserts that combination Lavigne with Stabile fails to teach or suggest the features of claim 462 in combination with the features of amended claim 309.

The Office Action included a rejection of claim 465 under 35 U.S.C. §103(a) as being unpatentable over Lavigne in view of U.S. Patent No. 6,212,566 to Weersink et al. (hereinafter “Weersink”). Applicant respectfully disagrees with these rejections.

For at least the reasons set forth with respect to the combination of Lavigne with Pfof and incorporated herein by reference, Applicant asserts that combination Lavigne with Weersink fails to teach or suggest the features of claim 465 in combination with the features of amended claim 309.

The Office Action included rejections of claims 475-476 under 35 U.S.C. §103(a) as being unpatentable over Lavigne in view of U.S. Patent No. 5,681,484 to Zanzucchi et al. (hereinafter “Zanzucchi”). Applicant respectfully disagrees with these rejections.

For at least the reasons set forth with respect to the combination of Lavigne with Pfof and incorporated herein by reference, Applicant asserts that combination Lavigne with Zanzucchi fails to teach or suggest the features of claims 475-476 in combination with the features of amended claim 309.

The Office Action included a rejection of claim 480 under 35 U.S.C. §103(a) as being unpatentable over Lavigne in view of U.S. Patent No. 6,023,540 to Walt et al. (hereinafter “Walt”). Applicant respectfully disagrees with these rejections.

For at least the reasons set forth with respect to the combination of Lavigne with Pfof and incorporated herein by reference, Applicant asserts that combination Lavigne with Zanzucchi fails to teach or suggest the of features of claim 480 in combination with the features of amended claim 309.

The Office Action included a rejection of claim 483 under 35 U.S.C. §103(a) as being unpatentable over Lavigne in view of U.S. Patent No. 5,235,028 to Barany et al. (hereinafter “Barany”). Applicant respectfully disagrees with these rejections.

For at least the reasons set forth with respect to the combination of Lavigne with Pfof and incorporated herein by reference, Applicant asserts that combination Lavigne with Barany fails to teach or suggest the of features of amended claim 483 in combination with the features of amended claim 309.

The Office Action included rejections of claims 484 and 496 under 35 U.S.C. §103(a) as being unpatentable over Lavigne in view of U.S. Patent No. 6,268,222 to Chandler et al. (hereinafter “Chandler”). Applicant respectfully disagrees with these rejections.

For at least the reasons set forth with respect to the combination of Lavigne with Pfof *supra*, and incorporated herein by reference, Applicant asserts that combination Lavigne with Chandler fails to teach or suggest the of features of claims 484 and 496 in combination with the features of amended claim 309.

The Office Action included rejections of claims 488 and 489 under 35 U.S.C. §103(a) as being unpatentable over Lavigne in view of Pfof as applied to claims 486 and 487, and further in view of U.S. Patent No. 4,493,815 to Fernwood et al. (hereinafter “Fernwood”). Applicant respectfully disagrees with these rejections.

For at least the reasons set forth with respect to the combination of Lavigne with Pfof *supra* and incorporated herein by reference, Applicant asserts that combination Lavigne with Pfof and with Fernwood fails to teach or suggest the features of claims 488 and 489 in combination with the features of amended claim 309.

The Office Action included a rejection of claim 495 under 35 U.S.C. §103(a) as being unpatentable over Lavigne in view of U.S. Patent No. 5,252,294 to Kroy et al. (hereinafter “Kroy”). Applicant respectfully disagrees with these rejections.

For at least the reasons set forth with respect to the combination of Lavigne with Pfof and incorporated herein by reference, Applicant asserts that combination Lavigne with Pfof and with Fernwood fails to teach or suggest the features of claims 488 and 489 in combination with



the features of claim 309.

Applicant submits that, for at least the reasons cited above, the claims are patentable pursuant to 35 U.S.C. §103(a). Applicant respectfully requests the removal of the rejections on these grounds.

**E. Double Patenting**

Claims 309 and 460-496 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5, 7, 10-19, 23, 24, 28, 29 and 174 of co-pending Application No. 09/287,248 in view of Lavigne. Applicant is attaching a terminal disclaimer to overcome these rejections.

Claims 309 and 460-496 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 413-446, 450-451, 461-465, 490-492, 726 and 730 in view of co-pending Application No. 09/616,731. Applicant is attaching a terminal disclaimer to overcome these rejections.

Claims 309 and 460-496 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17, 21-34, 37-69, 74, 76-114, 116-119, 121-147, 327-360 and 363-377 of co-pending Application No. 09/775,342. Applicant is attaching a terminal disclaimer to overcome these rejections.

Claims 309 and 460-496 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17, 21-34, 37-69, 74, 76-114, 116-119, 121-147, 327-360 and 363-377 of co-pending Application No. 09/775,342. Applicant is attaching a terminal disclaimer to overcome these rejections.

Claims 309 and 460-496 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5, 7-21, and 29-37 of co-pending Application No. 09/427,744. Applicant is attaching a terminal disclaimer to overcome these rejections.

Claims 309 and 460-496 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5, 10-18, and 23-31 of U.S. Patent No. 6,602,702. Applicant is attaching a terminal disclaimer to overcome these rejections.

Claims 309 and 460-496 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7, 9-21, 25, 26, 36 and 36 of U.S. Patent No. 6,680,206. Applicant is attaching a terminal disclaimer to overcome these rejections.

Claims 309 and 460-496 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7, 9-23, 27-29 and 31 of U.S. Patent No. 6,713,298. Applicant is attaching a terminal disclaimer to overcome these rejections.

**F. Summary**

Applicant submits that all claims are in condition for allowance. Favorable reconsideration is respectfully requested.

Inventor: McDevitt et al.  
Appl. Ser. No.: 09/775,344  
Atty. Dkt. No.: 5936-00525

Applicant respectfully requests a one-month extension of time for this response. A Fee Authorization in the amount of \$250 is enclosed herewith to cover the cost of an extension for response within first month and a Disclaimer. Applicant believes that no additional fees are due with this response. If any additional extension of time is necessary, Applicant hereby requests the appropriate extension of time. If any fees have been inadvertently omitted or if any fees are required, please charge those fees to Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C. Deposit Account Number 50-1505/5119-00525/EBM

Respectfully submitted,



Mark R. DeLuca  
Reg. No. 44,649

Patent Agent for Applicants

MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.  
P.O. BOX 398  
AUSTIN, TX 78767-0398  
(512) 853-8800 (voice)  
(512) 853-8801 (facsimile)

Date: 1/10/05